

HANDBOOK OF PHONOLOGICAL DATA
FROM A SAMPLE OF THE WORLD'S LANGUAGES

A Report of the Stanford Phonology Archive

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	175 Breton	175 Breton	175 Breton
175	01 p-aspirated [p-unreleased] ⁶⁰ [p-aspirated-weak] ⁶¹ [p] ⁶²	13 s-hacek [s-hacek-palatalized] ⁶⁴	55 e-mid [epsilon] ^{09 72}
175	02 b [b-unreleased] ⁶⁰	14 z-hacek	56 epsilon-long ^{11 15}
175	03 t-aspirated [t-unreleased] ⁶⁰ [t-aspirated-weak] ⁶¹ [t] ⁶²	15 x [gamma] ⁶⁵ [h] ⁶⁵ [h-voice] ⁶⁵ (free)	57 epsilon-long-nasalized ³⁰ (loan) [epsilon-half-long-nasalized] ^{16 70} [epsilon-nasalized] ⁷¹
175	04 d [d-unreleased] ⁶⁰	16 m	58 o-mid-trema
175	05 c-aspirated ⁰³ [c-aspirated-weak] ⁶¹	17 n	59 o-trema-long ¹¹
175	06 j ⁰³	18 n-palatal ⁰⁵	60 a-front
175	07 k-aspirated [k-unreleased] ⁶⁰ [k-aspirated-weak] ⁶¹ [k-prevelar-aspirated] ⁶³ [k-prevelar-unreleased] ^{60 63} [k-prevelar-aspirated-weak] ^{61 63} [k] ⁶² [k-prevelar] ^{62 63}	19 eng [eng-prevelar] ⁶³	61 schwa ¹⁷
175	08 g [g-unreleased] ⁶⁰ [g-prevelar] ⁶³	20 l [l-velarized] ⁶⁶	62 u ^{09 10}
175	09 f	21 r-trill ⁰⁶ [gamma-uvular] ⁶⁷ [r-trill-syllabic] ^{07 68} (free) [r-flap] ⁶⁹ [r-approximant] ^{08 69} (free)	63 u-long ¹¹
175	10 v	51 j ^{09 10}	64 o-mid
175	11 s-laminal	52 i-long ^{09 11}	65 o-long ¹¹
175	12 z-laminal	53 u-trema ^{09 13}	66 alpha-long ^{11 19}
		54 u-trema-long ^{11 12}	67 alpha-unrounded-long-nasalize ^{d21} [alpha-unrounded-half-long-na- salized] ¹ [alpha-unrounded-nasalize]
175	\$a Breton \$b Kerland \$d Celtic \$e L'ile de Groix \$f 900,000 \$g Merritt Ruhlen \$g Marilyn Vihman (review)		
175	\$a Ternes, Elmar \$b 1970 \$c Grammaire Structurale du Breton de L'ile de Groix \$g Heidelberg: Carl Winter Universitatsverlag \$q 10 informants \$r 6 months		
175	\$a PHONOLOGICAL WORD \$A initial C: all but /n-palatal, eng, w-nasalized/ \$A initial CC: /p-aspirated, b, k-aspirated, g, f/ + /l, r-trill, w/; /t-aspirated, d/ + /r-trill, w/; /s/ + /p-aspirated, k-aspirated, w-front, w/; /s-hacek/ + /t-aspirated, c-aspirated, w-front/; /j, m, r-trill, x/ + /w-front, w/; /c-aspirated/ + /w-front/; /n, l, v, z, z-hacek/ + /w/ \$A initial CCC: /k-aspirated, d, g/ + /r-trill/ + /w/; /g/ + /l/ + /w/; /s/ + /p-aspirated, k-aspirated/ + /l/; /s-hacek/ + /t-aspirated/ + /l/; /s-hacek/ + /t-aspirated, k-aspirated/ + /r-trill/; /s/ + /k-aspirated/ + /w/; /s-hacek/ + /c-aspirated/ + /w-front/ \$A final C: all but voiced obstruents and /w-front/ \$A final CC: /l, r-trill/ + /p-aspirated, t-aspirated, k-aspirated, m, s, x, w/; /m/ + /p-aspirated/; /n, s-hacek, yod/ + /t-aspirated/; /eng, s/ + /k-aspirated/; /r-trill/ + /m, eng, r-trill, s/ (/yod/ + /t-aspirated/ always has a morpheme boundary. The other final clusters occur stem internally.) (p.48ff)		
175	\$a STRESS \$A The word has a non-phonemic stress accent. Pitch is determined by the intonational contour of the phrase. There are three degrees of stress: primary, secondary, and unstressed. Primary stress falls on the last syllable, secondary stress on a preceding long or nasalized vowel. However, syllables containing a nasalized vowel or the diphthong /a-front.e-mid/ sometimes take secondary stress and sometimes do not. (Some examples of free variation are given.) Trisyllables without a non-final long vowel optionally take secondary stress on the		

first syllable, and in four syllable words an initial secondary stress seems to be obligatory if no other syllable can take secondary stress. (p.39ff)

- 175 \$a SYLLABLE \$A (C)(C)(C)V(V)(:)(C)(C) \$A diphthongs: /e-mid/ + /a-front, o-mid, alpha-long, o-long, alpha-unrounded-long-nasalized/; /e-mid/ + /i/; /o-mid-trema/ + /u-trema/; /o-mid/ + /u/; /a-front/ + /e-mid/ (p.3)
- 175 03 \$A /c-aspirated, j/ are described as "predorso-prepalatal." (p.12)
- 175 05 \$A /n-palatal/ is described as "postpalatal." (p.15)
- 175 06 \$A Word-finally, /r-trill/ has one to two vibrations followed by a short centralized l-e-l-offglide. (p.18f) Initially it has two to three vibrations, strong articulation. (p.19)
- 175 07 \$A [r-trill-syllabic] has one to three vibrations. (p.19)
- 175 08 \$A [r-approximant] has "very little friction, almost a semi-vowel." (p.21)
- 175 09 \$A /i, u-trema, epsilon, u/ are described as slightly more open than the corresponding cardinal vowels. (p.27f)
- 175 10 \$A "Before word-final [s.k-aspirated/] and [s-hacek.t-aspirated/] a slightly longer variant [of /i/ and /u/] is found." (p.27)
- 175 11 \$A The duration of long vowels is twice or even three times that of short vowels. (p.30)
- 175 13 \$A "Before word-final [s-hacek.t-aspirated/] a slightly longer variant [of /u-trema/] is found." (p.28)
- 175 15 \$A /epsilon-long/ may be slightly diphthongized between /w/ and /v/ and, rarely, before /r-trill, s, z, z-hacek/ and /w-front/. (p.31)
- 175 16 \$A [epsilon-half-long-nasalized, alpha-unrounded-half-long-nasalized] are "slightly longer than short oral vowels." (p.33)
- 175 17 \$A /schwa/ is "slightly front of central." (p.29)
- 175 19 \$A /alpha-long/ is "slightly more close than cardinal 'alpha'" and is "lightly rounded." (p.32)
- 175 21 \$A /alpha-unrounded-long-nasalized/ is slightly front of back. (p.32)
- 175 22 \$A "The articulation [of /yod/] is very lax before or after [i] and [i-long]." (p.25)
- 175 23 \$A /w-front/ is very lax before [u-trema]. (p.26)
- 175 24 \$A Rounding of /w-front/ is slight, especially intervocalically. "This [intervocalic] variant could even be transcribed as a palatalized bilabial voiced fricative [approximant?]." (p.25)
- 175 25 \$A /w/ is very lax before and after /u/ and /u-long/.
- 175 26 \$A Rounding is slight for /w, w-nasalized/. (p.26)
- 175 27 \$A Nasalization of /w-nasalized/ is strong word-finally, weak intervocalically. (p.26)
- 175 28 \$A [w-front-nasalized] is described as "palatalized."
- 175 30 \$A /epsilon-long-nasalized/ is a recent French loan. (p.9)
- 175 60 \$A Stops are not released before another stop consonant. (/c-aspirated, j/ do not occur in this position. There are no examples of [g-prevelar-unreleased].) (p.11ff)
- 175 61 \$A Aspirated stops are only weakly aspirated "before /l, r-trill, w/, or after /s, s-hacek/." (p.12)
- 175 62 \$A Aspirated stops become unaspirated when followed by a fricative. (/c-aspirated/ does not occur in this position.) (p.12)
- 175 63 \$A Velars are fronted before a non-low front vowel, and after a non-low front vowel where no vowel follows. (p.13-15)
- 175 64 \$A /s-hacek/ is (lightly) palatalized before [c-aspirated]. (p.23)
- 175 65 \$A /x/ is voiced before voiced obstruents, and is realized as [h] or [h-voiced] before vowels, glides, and sonorants. (p.23)
- 175 66 \$A /l/ is velarized strongly word-finally and before /e-mid.yod/. /l/ is velarized moderately

before certain diphthongs, as first member of a word-final consonant cluster, and post-consonantally where a back vowel or glide follows. /l/ is velarized weakly in post-consonantal position where a non-back vowel follows, as first member of a non-final consonant cluster, and initially or post-vocalically before a back vowel or glide, or before /a-front.e-glide/. (p.16) (Only [l-velarized] is coded in the segment inventory.)

- 175 67 \$A /r-trill/ is realized as [gamma-uvular] before /l/.
- 175 68 \$A When /r-trill/ is preceded or followed by /schwa/, the sequence may become [r-trill-syllabic].
- 175 69 \$A /r-trill/ is generally realized as [r-flap] (1) before consonant clusters, (2) at the end of an unstressed syllable which stands between a secondary stressed syllable and a following primary stressed syllable, (3) several syllables before a primary stress, (4) before syllable final /w/, and (5) rarely in intervocalic position. (p.21f) [r-flap] may be realized as [r-approximant].
- 175 70 \$A The long nasalized vowels are half-long after a long syllable or, under secondary stress, before a voiceless consonant. (p.33)
- 175 71 \$A The long nasalized vowels are short in unstressed syllables, before consonant clusters, and word finally (in French loans). (p.33)
- 175 72 \$A /e-mid/ is lowered to [epsilon] before /l/. (p.28)
- 175 73 \$A /w-nasalized/ is realized as [w-front-nasalized] between non-low front vowels. (p.26f)